

## BULLETIN

The energy and planning resource for Western utilities

TWO WESTERN CUSTOMERS NAMED  
2014 WIND COOPERATIVES OF THE YEAR

**T**he Department of Energy (DOE) recognized San Isabel Electric Association Inc. and Tri-State Generation and Transmission Association as the 2014 Wind Cooperatives of the Year at the National Rural Electric Cooperative Association (NRECA) TechAdvantage 2015 Conference and Expo.

The 14th annual awards, presented in Orlando, Florida, honored Tri-State in the generation and transmission (G&T) cooperative category and San Isabel for wind energy development by a distribution cooperative. The two power providers were selected by a panel of experts from the wind industry, utilities, government, national laboratories and cooperatives.

## Years of data inform San Isabel development

Located in Pueblo, Colorado, San Isabel Electric Association (SIEA) is a leader in wind power development in the state dating back more than a



Since 2013, the Huerfano River Wind Project has supplied San Isabel Electric Association with 5 percent of its annual kilowatt-hour needs. (Photo by San Isabel Electric Association)

decade. In 2004, the co-op installed an anemometer to assess the wind potential in Huerfano County. Then-Under Secretary of Agriculture Tom Dorr and Gigi Dennis, state director for the Department of Agriculture's Rural Development Program, were among those attending a public outreach meeting SIEA held to demonstrate how the tower worked. When the tower was completed, state and local officials gathered for a "tower-raising" event at the site to celebrate the project's energy and economic development potential.

In the following years, data from the tower assisted with educational research and renewables development in the area, leading to the commissioning of SIEA's Huerfano River Wind Project in 2013. The 8-megawatt (MW)

project now supplies 5 percent of San Isabel's annual kilowatt-hour requirements. As the largest community-owned, distributed-generation wind facility in the region, Huerfano River required extensive analysis and unique protective relay schemes to ensure that it would not affect the bulk electric system of Tri-State, SIEA's wholesaler.

San Isabel is now partnering with the Electric Power Research Institute and the National Renewable Energy Laboratory for a demonstration project using remotely controlled water heaters and electric thermal storage units to absorb the intermittent wind power. "These solutions can help to break down the integration barriers for smaller scale distributed energy projects," said San Isabel General

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Manager Reg Rudolph. "I am proud of the leadership San Isabel has shown in developing this project, creating a working model for others to follow."

### Learning while growing renewable portfolio

Although Tri-State has been purchasing wind power since 1998, the G&T's first experience pursuing a utility-scale wind project came in July 2009. The 51-MW Kit Carson Wind Power Project, located in the service territory of Tri-State member KC Electric Association, gave Tri-State valuable experience in new procurement and contracting processes, as well as integrating a variable resource.

That experience enabled Tri-State to rapidly acquire new wind resources, including 67 MW from the Colorado Highlands Wind (CHW) Farm in 2012, and another 24-MW expansion of CHW in 2013. Tri-State plans to add 150 MW from the Carousel Wind Project near Burlington, Colorado, in 2016 after the completion of a major transmission line. The G&T is currently evaluating a short list of renewables project submitted through a 2014 request for



TriState Generation and Transmission Association contracted in 2012 to receive 67 megawatts of wind power from the Colorado Highlands Wind Project. (Photo by Tri-State Generation and Transmission Association)

proposal to bring on an additional 20 to 150 MW in the coming year.

To give its member systems the opportunity to participate in community-based renewables projects, Tri-State has an innovative program to incentivize project development within members' service territory. To date, Tri-State members have 42 projects in place or under development, including SIEA's Huerfano River Wind Farm.

"Including hydropower, renewable energy has been integral to our operations since the company's founding," noted Tri-State Senior Vice President of Energy Management Brad Nebergall. "With our commitment to investing in new technologies and operating responsibly, we are at a point today where over 20 percent of the energy we provide our member systems comes from wind and other renewable resources."

### Honoring wind development

Western's Renewable Resource Program, in partnership with the DOE Wind Program and NRECA, created the Wind Cooperative of the Year Award to recognize electric cooperatives for their effort to bring the benefits of wind energy to their customers. Wind power supports more than 50,000 jobs across the country, provides cost-competitive, clean energy to cities and communities and helps to eliminate more than 115 million metric tons of carbon dioxide emissions each year.

Western congratulates San Isabel Electric and Tri-State for their commitment to making wind power part of their portfolios. Their leadership demonstrates that with a little creativity and a lot of determination, clean, renewable energy is an option now available to both large and small cooperatives. ⚡

### ENERGY SERVICES BULLETIN

The Energy Services Bulletin is published by Western Area Power Administration for its power customers. The mailing address is Western Area Power Administration, P.O. Box 281213, Lakewood, CO 80228-8213; telephone (720) 962-7508.

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**ENERGY SERVICES**  
Western Area Power Administration

# FORT COLLINS FORGES AHEAD ON CLIMATE GOALS

**T**hroughout the nation, municipalities are showing leadership in addressing climate change, and Fort Collins, Colorado, is leading the leaders. The city recently revised its climate action goals to reduce its total greenhouse gas emissions 20 percent by 2020 and 80 percent by 2030 across all sectors relative to 2005 levels.

An article in the Rocky Mountain Institute (RMI) Outlet notes that the 2030 target is 20 years sooner than the “80 by ‘50” goal other leading cities have set, making it among the most ambitious of any city in the world. RMI is among the many partners the Fort Collins City Council engaged to assess the costs and benefits to the community of accelerating the city’s greenhouse gas emissions goals. The partnership includes community leaders, local businesses, citizen advisory groups, the communities’ generation and distribution utilities and research institutes.

## Investment required

Led by city government and Fort Collins Utilities, the partnership has discussed, analyzed and reviewed approaches to achieving the goals. The forward-looking plan lays the groundwork to stimulate hundreds of millions of dollars of new investments in efficiency and renewable resources in the years ahead. The upfront capital requirements will be high, but RMI estimates that the investments in carbon reduction will begin producing real financial benefits to the community close to 2030.

In addition to investing in infrastructure upgrades and clean central generation, the community will need to improve its building stock as well. The targets the city has identified to achieve its goals include:

- Reduce building emissions by 40 percent through greater efficiency and distributed solar adoption



- Reduce carbon emissions from the utility electricity system by 79 percent from 2005 levels
- Reduce transportation carbon emissions by 57 percent from 2005 levels
- Create a zero-waste community

## Utility tackles challenge

Increasing the efficiency of the building stock poses a special challenge, as buildings are responsible for 53 percent of emissions and participation in retrofit programs is often low. The city’s municipal utility plays a central role in encouraging citizens to invest in efficiency for homes and commercial facilities. A recently approved update to the utility’s on-bill financing program allows unprecedented access and flexibility for financing efficiency. The plan gives customers the ability to allocate costs between tenant and landlord, and includes longer financing terms that match the life of the upgrades, lower interest rates and an easier approval process.

The integrated utility services model Fort Collins Utilities developed with RMI’s support could, if adopted, do even more to promote building efficiency. It would allow the utility to centrally deliver energy services; such as efficiency, distributed renewables and value-added services; at scales that will achieve cost savings and

high-quality service, and be paid for on customers’ electricity bills. This approach offers an innovative model for utilities seeking to grow their business by diversifying their services to customers.

## Long journey to sustainability

The new goals are part of continuing process that has engaged the city and its partners for more than 15 years.

The Fort Collins City Council passed a resolution in 1999, committing the city to reducing its greenhouse gas emissions significantly by 2010. The landmark year of 2007 saw the formation of the city’s Climate Task Force and the implementation of FortZED, funded by an \$11 million federal grant. The project created a zero-energy district in Fort Collins’ downtown business district and the Colorado State University campus. It also launched a dialogue between the university, the utility and the city that continues today, and led directly to the city council’s vote to adopt the historic new goals.

The process has not been smooth or easy, but the city has already made significant progress. By continuing its methodical, inclusive and thoughtful approach, Fort Collins is showing how even a town of 150,000 can make big strides in fighting climate change. ⚡

# WEBINAR SERIES ANSWERS TRIBES' QUESTIONS ABOUT RENEWABLE ENERGY PROJECTS

One of the most important things we do at Western—after providing low-cost federal hydropower to public power utilities—is to help our customers manage their resources in a rapidly changing world. Now in its fourth year, the Tribal Renewable Energy Webinar Series is helping Native American tribes to gain a clear picture of a complex industry and build business relationships needed to develop the renewable resources on their lands.

Western has partnered with the Department of Energy Office of Indian Energy Policy and Programs to present tribal members and stakeholders with valuable, practical knowledge about renewable energy technologies, markets and policies. Since 2011, the series has covered every aspect of project development, from resource and site evaluation to transmission access and interconnection to power marketing. The current series, *Knowledge to Energy: The Path to Projects*, builds on the material presented in the previous years to focus on best practices, case studies, regulatory issues and business and financing models.

## Successful outreach

This cost-effective approach to technical assistance has reached thousands of Native American representatives and interested stakeholders. More than 3,500 tribal members participated in the 2014 series alone, and 2015 is off to a promising start, said Western Renewable Energy Program Manager and Webinar Series Chair Randy Manion. “We’ve received many notes of thanks and appreciation already for the first two webinars,” he commented. “We spend several months planning these series to ensure topics are on target, timely and useful in moving renewable projects forward on tribal lands.”

The January webinar, *Best Practices in Developing a Tribal Strategic Energy*

Plan, had particular significance to a tribal representative located in Western’s Upper Great Plains Region. “He told me afterward that the tribe is developing a strategic energy plan, and the webinar made him realize the importance of community input in planning,” recalled Manion. “Those positive feedbacks happen after each webinar, and they are confirmations that we are on the right track with our topics and speakers.”

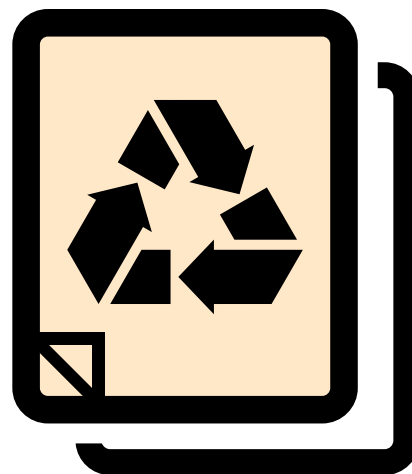
Manion explained that during the last four years, the question-and-answer sessions during the webinar and feedback afterward have helped the planning committee to hone in on what interests the tribes. Recruiting speakers, while still a formidable task, is getting easier as the series gains recognition for its high quality. “More tribal leaders and staff are joining the experts on the agenda,” he said. “We see an uptick in audience interaction and interest when the participants have a chance to talk to peers about their experiences developing projects.”

## Bridge-building

The growing number of tribes with their own experience is another indication of the success of the webinar series. “Getting tribal members to participate as presenters for the webinars has been a priority for the series this year,” Manion acknowledged.

The series has helped tribes to better understand what they need to reach full or partial energy self-sufficiency—a high priority on tribal lands—and to keep that momentum going during changes in tribal councils and leadership positions. “We are also bridging awareness within the energy industry of what tribes are doing successfully, who they are and how to work with them,” added Manion.

Like many outreach programs intended to help customers, the Tribal Webinar Series has been good for the sponsoring agencies as well. Western’s



Power Marketing representatives have observed that what tribes learn from the webinars about renewable energy issues increases their understanding of hydropower marketing and transmission issues.

## More than talk—action!

The benefits of the webinar series extend beyond better communication about energy development to an increase in requests for technical assistance from the federal sponsors. Western has conducted several pre-feasibility transmission studies in support of potential renewable energy projects on tribal lands. These studies help tribes determine the probable size, interconnection and feasibility of proposed renewable projects, and also assist in the search for financing and potential buyers for the generation.

“Our technical assistance to Native American Tribes is not limited to pre-feasibility transmission studies and webinars,” Manion said. “With the funding Western receives from the DOE Office of Indian Energy Policy and Programs, we are open to considering other requests.”

For example, Western has conducted four prefeasibility studies for tribal utility formation. Two of the tribes are now independently moving forward to the next level of analysis.

*See WEBINAR SERIES, page 7*

# STILL TIME TO REGISTER FOR UTILITY ENERGY FORUM

**May 13-15, 2015**

**Granlibakken Resort**

**Lake Tahoe, California**

**T**he 35th annual Utility Energy Forum (UEF) is only eight weeks away. If you have been putting off your registration, now is the time to sign up for three days of networking, learning, building bridges and finding inspiration in Lake Tahoe, California.

Even better, if you are a Western customer attending the event for the first time, there are still \$100 scholarships available to offset the already-reasonable fee. Western encourages its customers to attend the forum because it offers so much to utility professionals who work with consumers.

"I am really excited by this year's agenda," said Energy Services Manager Ron Horstman, who is on the planning committee. "Utilities face a growing list of issues that have the potential to completely remake the way we do business. The forum offers a relaxed and informal space to look at these challenges from different angles and identify hidden opportunities to create stronger business models."

## **Tackling tough questions**

Take, for example, the top three topics up for discussion during the Pre-forum Workshop exclusively for utility and government representatives:

- Community solar and potential impacts on utilities
- Distributed generation, and using micro-grid technologies to replace utility infrastructure and improve reliability
- Utility benefits from net metering and feed-in tariffs

Some attendees may be lying awake at night wondering what to do if a mandate or consumer demand pushes them into adoption before

they can assess the impacts. Others have already had experience integrating these technologies and programs into their operations and are eager to share what they have learned. The Pre-conference Workshop gets both camps together to address concerns, learn from past missteps and brainstorm innovative solutions.

Once the conference gets rolling, experts across the industry will discuss potential carbon regulations, emerging technologies, workforce development and—most importantly—consumer programs. "Our industry is in transition," noted Horstman. "Ultimately, it is going to be the consumer that drives most of the change that threatens to disrupt business as usual."

Utility customers have higher expectations and are more educated about energy now, he added. "They still want reliable, affordable power, but they are concerned about the environmental costs," explained Horstman. "New technologies are becoming more affordable and giving people more choices. The ratepayers of the future may be more like partners to power providers,

rather than conventional customers."

## **Meeting movers**

What sets the Utility Energy Forum apart from most other conferences is more than just a packed roster of (admittedly excellent) speakers. More than anything, the forum is about the opportunity to engage with the people who are doing the real work of creating and launching utility programs.

Maybe you aren't the type to speak up during the question-and-answer portion of a presentation, or maybe you thought of a crucial and pressing question half an hour later. Don't worry, you can ask the speaker during the break or the next meal. That would also be a good time to buttonhole the attendee who mentioned a program during the "Utility Snapshots" session that sounds a lot like one you started at your utility.

If you are shopping around for new program and policy ideas to help you meet load management goals, consider giving "speed-dating" a try. The Utility Program Stand-up Challenge assembles a veritable



**Graham Parker of Pacific Northwest National Laboratory quizzes attendees on the finer points of efficiency program management. (Photo by Randy Martin)**

*See Utility Energy Forum, page 8*

# REGISTER FOR THE 2015 SEPA UTILITY SOLAR CONFERENCE

**T**he Solar Electric Power Association is inviting utilities from every point on the solar power learning curve to come to San Diego, California, April 27-29 for the Utility Solar Conference (USC).

The annual meeting brings together power providers interested in improving, expanding or developing a viable long-term solar strategy. Because registration is restricted to employees of utilities only, attendees will have the opportunity to share their experiences and exchange ideas in a relaxed, informal atmosphere.

## Solar from the utility perspective

The agenda offers something for everyone from business managers to engineers to customer service representatives, exploring such key areas as:

- Solar programs and business models
- Strategic planning and procurement
- Technology and integration
- State of the market and trends

The opening general session on Tuesday morning is a regulatory roundtable on *The Impact of Solar on Evolving Electricity Markets*. Discover how the rise of affordable renewable energy is disrupting the 'business as usual' approach to regulating electricity. Utility regulators will discuss what is driving recent policy initiatives in their respective states, and offer insight on the most significant challenges and opportunities facing the electric utility industry.

After getting the big picture from the opening roundtable, prepare to focus on the issues that are most important to your job. Sessions are offered in concurrent tracks designed to examine three topics in detail:



SEPA is hosting a golf tourney at the Rancho Bernardo Inn golf course to give Utility Solar Conference attendees a first-hand taste of California's abundant solar resource. (Photo by Rancho Bernardo Inn)

- Connecting with customers examines the consumer's role in the growth of distributed generation, and how utilities can get out in front of changing expectations.
- Utility business models explores solar market trends, rate design and different strategies for developing and owning generation projects.
- Solar and the grid tackles interconnection questions and looks at how changes in micro-grid, storage and inverter technology might affect utility business.

## Extracurricular activities

The USC officially kicks off with a networking reception on Monday evening, but those who arrive early can sign up for an inside look at innovative projects.

Join the 2015 USC Solar Tour, April 27, to explore the "living laboratory" that is the Borrego Springs micro-grid. San Diego Gas & Electric operates this demonstration project that shows how a small community interacts with distributed generation. The second half of the tour focuses on the concentrating photovoltaic technology of the 6.3-megawatt Desert Green plant.

Participants who are interested in what solar can do for their communities may want to learn about SEPA's partnership with GRID Alternatives. The flagship program installs solar power for low-income families across the United States and offers volunteers and job trainees hands-on solar installation experience. This is an excellent opportunity to experience a solar install up close while providing an incredible service to the community.

*See UTILITY SOLAR CONFERENCE, page 8*

# ONLINE SPRING COURSES AVAILABLE IN ENERGY RESOURCE MANAGEMENT

**T**he University of California, Davis, Extension is offering online spring courses in Energy Resource Management. These courses meet the continuing educational requirements (CEUs) for renewing AEE's Certified Energy Manager (CEM), Renewable Energy Professional (REP) and Sustainable Development Professional (CSDP) Certification programs.

The courses cover techniques and resources to improve business competitiveness and ensure regulatory compliance. Students will gain a better understanding of the wide range of issues involved in managing energy resources, and enhance their knowledge of the practical, sustainable application of contemporary energy resource management.

- **Energy Resource Management: Supply** covers energy management control systems, natural gas purchasing opportunities in the spot market, thermal energy storage, alternative energy supplies,

energy security and energy trading. Students will explore reliability and risk analysis methods, financing projects and tax considerations as well as strategic planning, cogeneration and the options, costs, benefits and constraints of "green sourcing." The class runs from May 4 to July 6, and students must first complete Introduction to Energy Management.

- **Energy Resource Management: Leadership** examines leadership issues involved in managing energy. Students will develop their own leadership style and learn how to create effective energy management strategies. The course provides insight into motivating organizational behavior, implementing change and managing projects through improved communications skills. Students must enroll in the course by April 27 and complete it by June 29. Prerequisites for the class are Introduction to

Energy Resource Management and one other Energy Resource Management certificate program course.

The UC Davis Extension Energy Resource Management Certificate Program is a completely online program for professional engineers, construction planners and designers, facility or plant managers, energy analysts, architects, agency managers and others who wish to expand their knowledge of this field.

The six-course program addresses the entire range of issues involved in understanding and managing energy in any industry, from heavy to light energy users. The program curriculum aligns with the Association of Energy Engineers requirements for CEM and BEP certifications, and has also been recognized by the California Energy Commission.

For more information or to enroll, call 800-752-0881 or email the UC Davis Extension. ⚡

## Webinar series *from page 4*

Also, the Energy Management and Marketing Office in Western's Desert Southwest Region is conducting a market assessment to remove barriers and identify opportunities for tribal renewable energy projects that could interconnect with the ED5-Palo Verde Hub Transmission Project, funded by the Transmission Infrastructure Program.

Tribes interested in receiving technical assistance need to complete a simple TA form on the DOE Office of Indian Energy and Policy Program website. If DOE believes that Western

can complete the request, it is forwarded to Manion who coordinates appropriate colleagues in an internal review to determine if it is suitable for Western to act on the request. In some cases, the National Renewable Energy Laboratory or another federal entity may be better equipped to handle the request. DOE, NREL and Western staff confer extensively with the requesting tribe before making the decision as to whether the request is a good fit for the agencies.

Native American tribes are poised to play a greater role in meeting the nation's need for low-carbon, home-grown energy resources. At the same time, developing renewable energy projects is a way for tribes to grow

their local economy and improve the quality of life in Indian Country. Western and the DOE Office of Indian Energy Policy and Programs are pleased to provide technical assistance such as the Tribal Renewable Energy Webinar Series to move tribes closer to these goals.

The Tribal Renewable Energy Webinar Series is usually scheduled for the last Wednesday of each month, from 11 a.m. to 12:30 p.m. Mountain Time. There is no cost to attend, but you must register in advance. Presentations and audio files from past webinars can be found in the Renewable Energy Program webinar library. ⚡

## Utility Energy Forum

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smorgasbord of storyboards on successful utility-sponsored energy programs. In four lightening rounds, attendees get to question presenters about the program's goals, successes and lessons. There will be time at the end to check out other presentations to see what you missed. Or you can get more details from presenters over a glass of port during the "Any Port in a Storm" reception later that evening.

### Such a deal

Another thing that distinguishes the UEF from other events is what a great bargain it is. The registration fee covers not only the high-quality sessions and networking activities, but the lodging at Granlibakken Resort and all meals as well. The



Like a mini-presentation, the Utility Program Stand-up Challenge covers the highlights of a successful program or technology in just a few minutes. (Photo by Randy Martin)

off-season rates make it tempting to extend your stay before or after the conference to enjoy springtime at Lake Tahoe.

Western can make the Utility Energy Forum an even better deal for first time attendees from

utility customers. Contact Ron Horstman at 720-962-7419 to learn more about eligibility and to apply. ⚡

## Utility Solar Conference

from page 6

After the conference is over, stick around one more day to expand your knowledge about the challenges of putting renewables onto the electric grid. SEPA is offering a new one-day Solar Integration Workshop where utility professionals can explore transmission issues with technology vendors and researchers together to explore the effective integration of solar power into

the electric grid. Expect a lively, interactive discussion that draws upon results of solar integration technology demonstrations, pilots and commercial deployments.

### A little more incentive

It is fitting that the state that has made so many strides in solar deployment and technology should host SEPA's Utility Solar Conference. Attendees can expect to meet and network with utility professionals whose extensive experience in dealing with solar issues makes them experts in their own right.

And then there is the beautiful city of San Diego, worthy of spending a few extra days on exploration of nearby attractions. The conference will take place at the Rancho Bernardo Inn, with a stunning 18-hole golf course that inspired SEPA to plan its first-ever golf tourney. Even if you can't spare time before or after the conference, you can still soak up the California sun on the links—as long as you reserve your spot soon. ⚡